comfort of all classes, and that all art is only good as it is utilitarian, not in the ordinary acceptation of the term, but as it is productive of good. Painting and sculpture are useful not only as affording pleasure; but while the eye is pleased, so is the mind elevated and raised to purer and holier thoughts. So let the architect, the professor of the chief sister's art, endeavour by his skill to allure even the humblest of his fellow citizens from the baneful influence of an ill-regulated home; let his science penetrate to every part of the house, in warming, ventilation, drainage, and arrangement; it is then that the world will begin to appreciate architecture, and clearly understand the duties of its professors. T.

SUPERVISION OF BUILDINGS IN VIENNA.

Dipping the other day into Thompson's new work on "Austria," we fell upon some particulars of the means taken in Vienna to control new buildings, which will probably interest our readers; and here they are:—

"Attached to the staff of the police is a board of architects with numerous employés to attend and enforce the different regulations laid down to insure the health and security of the inhabitants by sufficient drainage and ventilation. Three plans of a house to be built must be lodged at a magistrature, when a commission is appointed to examine them, and if no objections present themselves the work is allowed to proceed. The chief points insisted on are, that the scaffolding shall be so constructed that nothing can fall through it into the street, and that it shall not project more than 6 feet; that though the cellars may be carried to any depth, the foundation must be laid one-sixth as deep as the house is intended to be high, the maximum height being restricted to four stories. The ground-floor must be arched, and the walls of the upper story must be 2 feet thick, while each one above the ground-floor increases 6 inches, so that in fact a house of four stories high must be 4 feet thick at the ground-floor. No story may be less than 9 feet 6 inches high, and the ground-floor must be at least 6 inches above the pavement of the street. All kitchens, on whatever floor, must be arched; and as each floor is usually occupied by several sets of tenants, each stove, to prevent annoyance, must have its separate flue, of at least 7 inches in diameter, carried up at an angle of 60 degrees, to facilitate cleaning, into the main chimney, which must be at least 4 feet above the roof, and be secured both above and below by an iron grating. The staircases must be entirely of stone, and the window frames of either stone or brick; and a drain, at the expense of the proprietor, must be carried into the main sewer. The houses are built of brick, cemented over, which, besides presenting a more uniform appearance, is necessary, as the bricks are coarse unsightly affairs; they are of large dimensions, measuring, by statute, 11½ inches by 5½ and 2½ inches thick, and cost about 30s. the thousand.

The value of land in the best parts of the city ranges from five to six hundred florins 50*l.* to 60*l.*) the square fathom, and in other parts from two to three hundred; but in the suburbs it is much less, and ranges from five to fifty florins. In the rebuilding of a house the magistrature has the power of setting it back, to widen the street, on paying for the land at the average value of that in the district. Leasehold property is unknown; and thus the owner of the land, even if another person should build the house, is registered as the proprietor in the *Grundbuch*, which is the complete record of all the household and landed property in the empire. In all towns this register is kept by the *grundgericht*, a peculiar kind of magistrate, and in country places by the landowners, or *herrschaft*. In Vienna there are four of these registers, two civil and two ecclesiastical—one of which latter belongs to the metropolitan diocese, and is under the charge of the archbishop, and the other to the clergy of the Schotten order. All amounts of money advanced on mortgage, or otherwise on houses and lands, must be entered on these records, to make the transaction valid, and to prevent fraudulent practices."

CONSTRUCTION OF LIGHTHOUSES.

LIGHTHOUSE ON COMASSET ROCKS, U.S.

From the official report of Captain Swift, under whose direction this lighthouse is being constructed for the American Topographical Bureau, we learn that the form of the lighthouse frame is an octagon, of 25 feet diameter at the base; the structure is formed of eight heavy wrought iron piles, or shafts, placed at equal distance from each other, with one also at the centre. The piles were forged in two pieces each, and are connected together by very stout cast-iron or gun metal sockets, the interior of which is bored, and the pile ends are turned, and secured to the sockets by means of large steel keys, passing through the piles and sockets. Above and below the joints or sockets, and connecting the middle pile with each outer pile, there extends a series of wrought iron braces, and the outer shafts are connected together by similar braces, extending from one to the other,—and thus the whole structure is tied together.

The keeper's house is octagonal in shape, and 14 feet in diameter; the uprights, or stanchions, are of cast-iron, and rest upon the cap immediately over the pile heads, where they are secured with bolts and keys. These uprights are cast with double flanches, between which 2-inch plank, grooved and tongued, are to be fitted horizontally: and at right angles another series of plank is to be set on end vertically, and, together, these form the side or frame of the house; upon this frame the roof will be placed, and, finally, upon this, the lantern will be set up.

The drilling of the holes for the lighthouse occupied the better part of two seasons. The erection of the iron structure in place, it may be conceived, was comparatively a work of much less difficulty, and, with favourable weather, an undertaking not requiring much time. The triangle and drilling machine was swept from the rock twice during the first season's operations, and the men were frequently washed from the rock, but happily no lives have been lost. The holes were all finished on the 16th August, that is to say, nine holes of 12 inches diameter and 5 feet deep.

The entire height of the structure from the surface of the rock to the top of the lantern will be about 70 feet, and upwards of 50 above the line of the highest water.

The entire weight of the iron work is about 70 tons; of this upwards of 40 tons is wrought iron, the residue of cast iron. The average weight of each complete shaft is about 8,200 lbs. The cast-iron couplings for connecting the upper piles with the lower are 3 feet long, and weigh nearly 600 lbs. each: they are made of the best gun metal. The weight of the lantern and illuminating apparatus is about 4½ tons.

RAILWAY JOTTINGS.

The contracts for the execution of the Bishop Auckland and Pensher and Sunderland branches of the York, Newcastle, and Berwick line, have been let to Messrs. Rush and Lawton—the former for 235,000*l.* and the latter for 63,000*l.*——The strengthening of the permanent way of the Bristol and Birmingham line from Gloucester to Birmingham has been completed to an extent of 16 miles. The rails are of a weight of 84 lb. to the yard, in the place of 40 lb. as heretofore. ——A range of old buildings at Wolverhampton, have been removed preparatory to the erection of the entrance to the station of the Shrewsbury and Birmingham line. Besides the offices, a double row of new shops and houses will be erected, so that with the removal of unsightly buildings, a twofold improvement of that part of the town extending from Railway-street towards the canal will be thus effected.——A new axle-box has been tested on the North-Western carriages. The escape of grease and the admission of grit or dust are both obviated, it is said, in this invention, so that a carriage has been found to be capable of running 4,000 miles without either renewal of grease, access of dust, or hot axles. The grease is supplied through a screw opening, and a valve acted on by vulcanized rubber springs is fitted to the axle at the end of the box usually left open, so as to prevent either the waste of grease or the access of dust. A saving of several thousands of pounds a-year is anticipated from the adoption of this axle-box, which is an invention of one of the company's engineering officers, Mr. Normanville. ——The *Daily News* states that a discovery has been made of fraudulent practices or intentions with reference to the South-Eastern Company's passenger tickets, on the part of a subordinate officer on the North-Western.

LAUNDRY DRYING-CLOSETS.

A current of air having been long considered essential to the evaporation of moisture in laundry drying-closets, I beg to send you the result of some experiments tried with the new closet at the Middlesex Hospital, which prove that at high temperatures an external air-drain may be entirely and advantageously dispensed with.

The closet alluded to is 6 feet wide, 7 feet high, 8 feet long, and is heated by the direct radiation of the heat produced by the flue of the ironing stove passing through it, by which means it is kept at a temperature varying from 160° to 200° Fahrenheit, with little more fuel than would be required for the working of the ordinary ironing stove. The closet *was* originally constructed with an external air drain, but the drying not being satisfactory the drain was closed, and the following result obtained:

	Weight when put in.	Weight when taken out.	Water evaporated.	Time in evaporating.	Temperature of the closet when rags. &c. were put in.	Temperature when taken out.
	lbs.	lbs.	lbs.	h. m.		
Six Blankets...	44	23½	20½	1.35	200°	160
Eighteen Rugs	169	87½	81½			

The closet, after the linen was taken out, gradually rose to the temperature of 200°. The quantity of fuel required to keep the closet and ironing stove in full work was found to be about 16 lbs. weight of coke per hour.

It will be observed that the water evaporated from this closet is equal to 1 lb. per minute, and the fuel consumed about one-fourth of the weight of water evaporated.

Wm. Jeakes, Jun.

Miscellanea.

Tenders for Hampstead Workhouse. —Sir: I observed in your journal a striking example of the contracting monomania exhibited in the amounts of the several tenders sent in for the proposed alteration to Hampstead Workhouse. The lowest tender, Mr. Pilbeam's, was accepted, but in a day or two, I heard that Mr. P. had discovered a trifling, and of course, accidental error, of some 1,500*l.*; the guardians declined accepting his amended tender, but to my great surprise I have seen an advertisement calling for more tenders. Were there none of the other contractors responsible men, or are the guardians so very ignorant of the usual method of proceeding in such a case? Is there no man of business among them to set them right, or do they imagine that it is no trouble to builders to take out their own quantities and estimate for such works for the amusement or instruction of Boards of Guardians? May I beg the favor of your inserting this, as I think it will only be carrying out the great principle of fair play to all which you have so long and so fearlessly advocated.—A Looker On.

The Gas Monitor.—Sir: My object in pointing out the incorrectness of the advertisement of the Gas Light Monitor, was to avoid contributing by my silence to misleading the public. I cannot exactly ascertain the saving of gas effected at the Model Establishment, but instead of its being 10,000 feet in six weeks, as stated in the advertisement, I do not think it could have been much more than one-tenth of that amount.—George Woolcott, Assistant-Secretary to the Committee for Promoting the Establishment of Public Baths and Washhouses.

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